Appendix D. Prefire Management Process: For Pilot Ranger Units and the Postfire Component

Summary

"If you always do what you always did, you will always get what you always got." That adage, cited in the Strategic Fire and Resource Protection Plan for the Stanislaus National Forest, presents a solid if colloquial argument for prefire management with a strong postfire element.

Prefire management addresses fuel loading, fuel arrangement, land-use patterns and ignition management to reduce the costs and losses of wildland fires. The postfire element seeks and applies lessons to be learned after each large, damaging wildfire to break the cycle of disastrous fires.

The importance of successful prefire management is evident in the increasing intensity of wildland fires, high damage levels and suppression costs; population increases and movement into wildland areas; and limited fire-protection budgets at private, local, state and federal levels.

Increased development in traditional wildland areas has varied throughout the state, but three fairly distinct categories have evolved: highly developed land; development intermixed with wildland; and solely wildland areas (undeveloped). Add in the changes in the natural fire regime, with accompanying increase in fuel loading, and the result is a complex challenge for wildland fire protection agencies. It should be addressed in planning and implementing prefire, suppression and postfire programs.

All three phases of fire management must be targeted at areas with high-value assets at high risk of loss to large, high-intensity wildfires. This priority acknowledges the limited federal, state and local budgets for fire-protection agencies. It will require inventories of assets to be protected, comparison with the hazards they face, and factoring in the probability a large fire will occur. It is where these areas overlap that additional investment is warranted to reduce losses.

One traditionally narrow aspect of fire protection is postfire treatment. Generally, it has meant rehabilitation efforts to reduce soil erosion after a large intense fire. Little attention has been paid to the future conditions of the landscape and corresponding development, but long-term results dictate the conditions and fuels available in the next large wildfire.

It is time to expand postfire treatment from watershed rehabilitation into broader prefire management that will break the cycle of large damaging wildfire. Postfire management must include postfire assessments, watershed rehabilitation, prefire management analyses and a collaborative planning process. In turn, it must be part of a balanced approach addressing fire prevention, forest health, land-use planning, and fuel and ecosystem management. To be successful, these programs will require:

- Comprehensive planning and increased coordination — not just by the traditional fire and land management agencies but also by private landowners, private industry, the education system and other resource-related organizations.
- A greater level of investment by those who benefit the most from fire protection at private, local, state and federal levels. The costs and benefits of each planning and implementation project will require more attention.

Postfire Assessment

Wildfires affect both natural resources and those developed by society. All these resources were the assets at risk before the fire and the same assets will be at risk when the area burns again. There are the basic steps to postfire assessment.

Identify resources. Nine basic classifications of assets at risk were identified in the wildland fire protection planning effort undertaken by the Board of Forestry. They are life and safety, air quality, range, recreation on public wildlands, structures, timber, water and watershed, wildlife and habitat for listed species, and other resource assets (such as unique scenic areas and cultural and historic resources). These eight provide a starting point; other assets to protect from wildfire can be identified locally.

Take prefire inventory of the area. This would first include such natural conditions as soils, vegetation, topography, watercourses and wildlife habitat conditions. Second is an inventory of prefire development; it would include conditions of the transportation system, types of structures and building materials used, water sources, landscaping near structures, and any presuppression activities that were used.

Note damage to both natural and development resources. An effort should be made to include factors that could have reduced the damage. For example, where structures had wood-shingle roofs, it should be noted that a change in building materials could have reduced the chance of loss. Where a plantation burned, any opportunity to provide prefire treatment of the plantation or surrounding area should be noted.

A Planning Approach for Postfire Hazard Reduction

The information gathered from the postfire assessment supports a planning process that can reduce losses of valued assets when the next large fire burns all or part of the same area. It provides the base for watershed rehabilitation and

managing the area overall to avoid re-creating the conditions that supported the first fire. This is prefire management.

It addresses the components of fuel loading, fuel arrangement, land-use patterns and ignition management through a prefire management *plan*. Its tools include traditional fire prevention, vegetation (fuels) management, forest health and land-use planning programs that are more aggressively emphasized in a focused effort. Prefire management does address the protection of high-value, high-risk, high-hazard areas which are likely to burn under optimum fire weather conditions.

Management options include:

- Ignition reduction (education and arson programs)
- Hazard mitigation (prescribed burning or mechanical fuels reduction treatments)
- Exposure mitigation (fire-safe building standards, land-use planning, insurance policy conditions, and application of near home fire-safe guides)
- Fire suppression planning
- Silvicultural treatments for improving forest health
- Forest management to achieve fire-resistant forest structure
- Research and technology development
- Development of cooperative agreements and mechanisms

The implementation and execution of the prefire strategy (postfire hazard mitigation) must be part of a larger process. That provides a comprehensive plan involving all institutions and stakeholders in the planning and implementation of a strategic fire management plan for a given fire environment.

Prefire Planning Process for Pilot Ranger Units

Using the prefire planning process results in guides to postfire hazard reduction. It will yield the most efficient blend of the prefire tools and the ratio of cost vs. losses most acceptable to the local community.

The Board of Forestry 1995 Fire Plan is moving to implement a process for the development of prefire management in three of CDF's ranger units: Nevada-Yuba-Placer, Tuolumne-Calaveras and Riverside. The process will be refined and set an example of how to develop a plan that will reduce the cost of suppression together with a reduction in losses of assets at risk.

The process employs 13 steps that can be followed by any interested community, watershed group, resource conservation district or other locally organized group. This will likely require the participation and assistance of the wildland fire protection and land management agencies within the planning area

1. CDF staff produces maps of the local area showing:
    - Success rate of initial attack fire protection agencies

- Fuel hazards
- Commodity and non-commodity assets protected
- Severe fire weather days per year.

All four criteria are to be summarized in high, medium and low risk categories. The results are to be shown on geographic information system (GIS) maps.

2. A separate GIS map is generated that identifies the high-risk areas where prefire management is to be applied.
3. CDF FRAP unit provides the ranger unit with an assets at risk GIS map for each asset in the area.
4. Separate community level meetings are scheduled with respective stakeholders for each asset at risk. The meeting is to acquaint the stakeholders with the process and bring their expertise and knowledge to bear on the asset maps that identify high-, medium- and low-risk areas.
5. Ranger unit personnel provide ground review and validation of the high-risk prefire management areas. Validation will be used to make any identified corrections in GIS maps.
6. Ranger units correct the maps with assistance, as needed, from CDF headquarters staff. Headquarters produces final GIS maps for developing prefire management projects.
7. The ranger unit forms a group with local expertise to define alternative prescriptions for prefire management projects that will reduce total costs and losses of a future major fire burning through the area in severe fire weather.
8. Ranger unit staff, with assistance from headquarters staff and from stakeholders with expertise, identify economic and non-economic assets protected and estimated reductions in costs and losses if prefire management projects are implemented.
9. Ranger unit staff identifies the mix of local, state or federal government or private funding needed for prefire management projects based upon the levels of interest and stockholder values.
10. Prefire management projects are ranked based on cost effectiveness and local community and stakeholder values.
11. The ranger unit holds a second set of meetings with the stakeholders who are to provide funding.
12. The results are presented at a public meeting in the community to review the assessments, results and proposed prefire management projects.
13. The pilot prefire management projects are aggregated for use in approaching the defined funding organizations.

The process not only should address local fire protection needs but also should result in projects to address ecosystem needs. Involving all organizations and the private sector provides greater potential of overcoming the institutional and funding barriers that have killed similar plans in the past.

Annual (or more frequent) monitoring should be included when prefire management plans are implemented. It helps determine effectiveness of the projects in reducing costs and losses to the wildland fire protection system. Monitoring should be tested against pre-project conditions and should allow for adjustments for initial attack fires. Results should be used to adjust project design and priorities over time.

A prefire management plan will remain a living document as long as it is guided by the local community needs.